Notice of Allowability	Application No.	Applicant(s)	
	10/809,080	AZRAI ET AL.	
	Examiner	Art Unit	
	Adolf Berhane	2838	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address--

All claims being allowable, PROSECUTION ON THE MERITS IS (OR REMAINS) CLOSED in this application. If not included herewith (or previously mailed), a Notice of Allowance (PTOL-85) or other appropriate communication will be mailed in due course. **THIS NOTICE OF ALLOWABILITY IS NOT A GRANT OF PATENT RIGHTS.** This application is subject to withdrawal from issue at the initiative of the Office or upon petition by the applicant. See 37 CFR 1.313 and MPEP 1308.

1. ☒ This communication is responsive to *papers filed on 6/14/05*.

2. ☒ The allowed claim(s) is/are *1-55*.

3. ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
   a) ☐ All b) ☐ Some* c) ☐ None of the:
      1. ☐ Certified copies of the priority documents have been received.
      2. ☐ Certified copies of the priority documents have been received in Application No. _____ .
      3. ☐ Copies of the certified copies of the priority documents have been received in this national stage application from the International Bureau (PCT Rule 17.2(a)).

   * Certified copies not received: _____.

Applicant has THREE MONTHS FROM THE "MAILING DATE" of this communication to file a reply complying with the requirements noted below. Failure to timely comply will result in ABANDONMENT of this application.
THIS THREE-MONTH PERIOD IS NOT EXTENDABLE.

4. ☐ A SUBSTITUTE OATH OR DECLARATION must be submitted. Note the attached EXAMINER'S AMENDMENT or NOTICE OF INFORMAL PATENT APPLICATION (PTO-152) which gives reason(s) why the oath or declaration is deficient.

5. ☐ CORRECTED DRAWINGS (as "replacement sheets") must be submitted.
   (a) ☐ including changes required by the Notice of Draftsperson's Patent Drawing Review (PTO-948) attached
      1) ☐ hereto or 2) ☐ to Paper No./Mail Date _____.
   (b) ☐ including changes required by the attached Examiner's Amendment / Comment or in the Office action of Paper No./Mail Date _____.

   Identifying indicia such as the application number (see 37 CFR 1.84(c)) should be written on the drawings in the front (not the back) of each sheet. Replacement sheet(s) should be labeled as such in the header according to 37 CFR 1.121(d).

6. ☐ DEPOSIT OF and/or INFORMATION about the deposit of BIOLOGICAL MATERIAL must be submitted. Note the attached Examiner's comment regarding REQUIREMENT FOR THE DEPOSIT OF BIOLOGICAL MATERIAL.

Attachment(s)

1. ☒ Notice of References Cited (PTO-892)
2. ☐ Notice of Draftperson's Patent Drawing Review (PTO-948)
3. ☒ Information Disclosure Statements (PTO/SB/08), Paper No./Mail Date 1/10/05
4. ☐ Examiner's Comment Regarding Requirement for Deposit of Biological Material
5. ☐ Notice of Informal Patent Application
6. ☐ Interview Summary (PTO-413), Paper No./Mail Date _____ .
7. ☐ Examiner's Amendment/Comment
8. ☒ Examiner's Statement of Reasons for Allowance
9. ☐ Other _____.

Adolf Berhane
Primary Examiner
Art Unit 2838

1. Claims 1-55 are allowed over the cited prior art.

2. The following is an examiner's statement of reasons for allowance: None of the prior art of record disclose or teach a switched capacitor:

Claim 1 with a plurality of connective structures, each selected one of which plurality of connective structures being disposed to connect each selected one of the plurality of semiconductor switches to the one or more selected ones of the plurality of thin-film capacitors while being disposed substantially along one of a plurality of respective axes that are disposed in an orientation that is substantially normal to the first plane,

Claim 20 with a plurality of conducting structures connecting a plurality of respective terminals of the charging and discharging transistors to respective ones of the capacitor electrodes, the conducting structures having an equivalent series resistance of less than 10 milliohms,

Claim 31 by applying an output current from the capacitors through a plurality of discharging transistors on the integrated chip, the discharging transistors arranged in a layout such that a plurality of respective terminals of the respective discharging transistors are disposed above a portion of a plurality of respective electrodes of the plurality of capacitors,

Claim 32 with a controller operatively connected to all of the transistors, the controller operative to switch the transistors between a first charging mode in which all of the P4 and P5 transistors in the phase are de-activated, and a second discharging mode in which all of the P1 and P2 transistors in the phases are de-activated,

Claim 42 a method in response to a higher desired voltage at a substantially constant load current, allocating at least one additional switched-capacitor phase to the load or removing an at least one capacitor block from at least one of the switched-capacitor phases, in response to a lower desired voltage at a substantially constant load current, de-allocating at least one of the switched-capacitor phases or adding at least one capacitor block to an at least one switched capacitor phase,

Claim 45 a method in which after de-activating the P1 and P2 transistors in each phase, activating a P3 transistor connecting a negative terminal of each of the capacitors to ground; and after activating the P3 transistors, activating a P4 transistor connecting a negative terminal of each of the capacitors to ground and activating a P5 transistor connecting the positive terminal of at least one of the capacitors to an output terminal and

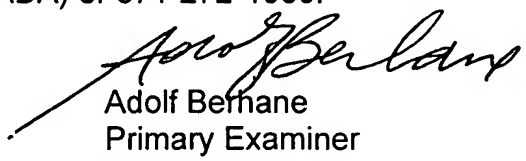
Claim 48 with a control stage operatively connected to all of the switches, the control stage operative to activate and de-activate selected ones of the switches of a selected phase to change between a first charging mode and a second discharging mode, the control stage operative to activate selected ones of the voltage-shifting switches of the selected phase prior to activating selected ones of the second discharging switches switches.

Any comments considered necessary by applicant must be submitted no later than the payment of the issue fee and, to avoid processing delays, should preferably accompany the issue fee. Such submissions should be clearly labeled "Comments on Statement of Reasons for Allowance."

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Adolf Berhane whose telephone number is 571-272-2077. The examiner can normally be reached on Monday- Friday 8 AM to 6 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Karl Easthom can be reached on 571-272-1989. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.



Adolf Berhane
Primary Examiner
Art Unit 2838